Salinity Protocol
Field Guide

Task
Measure the salinity of your water sample.

What You Need
- ❑ Tide Table for your area
- ❑ *Hydrology Investigation Data Sheet*
- ❑ *Water Temperature Protocol Field Guide*
- ❑ Hydrometer
- ❑ 500-mL clear, graduated cylinder
- ❑ Thermometer
- ❑ Conversion Table
- ❑ Pen or pencil
- ❑ Latex gloves

In the Field
1. Fill out the top portion of your *Hydrology Investigation Data Sheet.*
2. In the Salinity section of the *Hydrology Investigation Data Sheet*, record the times of the high tide and low tide that occur before and after your salinity measurement is taken. Also record the place where the times from your Tide Table occur.
3. Put on gloves.
4. Rinse the 500-mL cylinder with sample water twice.
5. Fill the cylinder with sample water to within 2 or 3 cm of the top.
6. Measure and record the temperature of the water in the cylinder. (See *Hydrology Investigation, Water Temperature Protocol Field Guide*)
7. Gently put the hydrometer into the cylinder.
8. Wait for the hydrometer to stop bobbing. It should not touch the sides of the cylinder.
9. Read the hydrometer at the bottom of the meniscus. Read the specific gravity to three decimal places. Record the specific gravity on the *Hydrology Investigation Data Sheet.*
10. Look up the specific gravity and water temperature on the Conversion Table to find the salinity of the water. Record the salinity on the *Hydrology Investigation Data Sheet* as *Observer 1.*
11. Repeat Steps 3-9 using new samples of water. Record the salinity measurements as *Observers 2* and *3.*
12. Calculate the average of the three measurements.
13. Each of the three measurements should be within 2 ppt of the average. If one or more of the observations is not within 2.0 ppt, do the measurement again and calculate a new average. If the measurements are still not within 2.0 ppt of the new average, talk to your teacher about possible problems.